

Remarks

Reconsideration of this Application is respectfully requested.

Claims 1-30 are pending in the application, with 1, 11 and 21 being the independent claims. Based on the following remarks, Applicant respectfully requests that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

Personal Interview

Applicant's representatives would like to thank the Examiner for the personal interview held on July 10, 2007.

Rejections under 35 U.S.C. § 102

Claims 1-5, 8, 9, 11-15, 18, 19, 21-25, 28, and 29 have been rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by U.S. Patent No. 5,968,167 to Whittaker et al. ("Whittaker"). Applicant respectfully traverses this rejection.

Independent claim 1 recites, inter alia, "at least two resource units ... wherein each of the resource units implements a portion of instruction types occurring in each of the threads." The Office Action compares the resource units of the present application to an instruction buffer and control unit of Whittaker, stating that the instruction buffer and control unit combination "implements the instruction types of each thread stored in the instruction buffer by executing the array of logic gates of the control unit." (Office Action, p. 3). Additionally, the Office Action states that the array of logic gates "determine whether an instruction (instruction being stored in the instruction buffer) can

run or not based on the instructions read from the instruction buffer.” (Office Action, p. 8).

The function of the instruction buffer with the control unit in Whittaker is to store a thread’s “next microinstruction and instruction operands.” (Whittaker, col. 7, line. 61 - col. 8, line 8). For each instruction buffer, a resource check and priority selection is then performed within a media control core, and instructions are executed. (Whittaker, col. 3, ll. 56-65; FIG. 6).

Since all of the instructions from any instruction buffer in Whittaker are handled by the media control core, the media control core is therefore a general purpose processing unit capable of handling any instruction type that may be presented within the instruction buffer. Specifically, if the instruction buffer with control unit in Whittaker processes any media control core instruction indiscriminately, then there are no differences between any available instruction buffers and control units. (see FIG. 6, generally). In contrast, the present application states that the instruction registers have a resource specifier that “specifies the resource(s) (e.g., functional units, memory access unit) needed on the next machine cycle to execute (or start execution of) the instruction held in the instruction register.” (Dennis Application, p. 13, ll. 15-20). Accordingly, instructions in the present application are assigned to those resources which have the capability of processing that type of instruction (e.g., functional instructions are assigned to functional units, memory access instructions are assigned to memory access units).

Since Whittaker teaches the use of a general purpose processing unit to process any instruction type originating from an instruction buffer, it cannot be said that Whittaker teaches or suggests that “each of the resource units implements a portion of

instruction types occurring in each of the threads,” as recited in claim 1. For at least these reasons, independent claim 1 is patentable over Whittaker. Reconsideration and withdrawal of this rejection is therefore respectfully requested.

Independent claims 11 and 21 have been rejected for similar reasons as independent claim 1. Claims 11 and 21 both recite that “each of the resource units implements a portion of instruction types occurring in each of the threads,” and are therefore not anticipated by Whittaker for similar reasons as independent claim 1. Reconsideration and withdrawal of these rejections is therefore respectfully requested.

Claims 2-5, 8, and 9 are also not anticipated by Whittaker for similar reasons as independent claim 1 from which they depend, and further in view of their own respective features. Claims 12-15, 18, and 19 are not anticipated by Whittaker for similar reasons as independent claim 11 from which they depend, and further in view of their own respective features. Claims 22-25, 28, and 29 are not anticipated by Whittaker for similar reasons as independent claim 21 from which they depend, and further in view of their own respective features. Reconsideration and withdrawal of these rejections is therefore respectfully requested.

Rejections under 35 U.S.C. § 103

Claims 6, 7, 10, 16, 17, 20, 26, 27, and 30 have been rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Whittaker in view of U.S. Patent No. 5,752,031 to Cutler et al. (“Cutler”). Applicant respectfully traverses this rejection.

Cutler does not cure the deficiencies of Whittaker relative to independent claim 1. Accordingly, claims 6, 7, and 10 are patentable over the combination of Cutler and

Whittaker for at least the reasons advanced with regard to independent claim 1 from which they depend, and further in view of their own respective features. Similarly, Cutler does not cure the deficiencies of Whittaker relative to independent claims 11 and 21. Accordingly, claims 16, 17, and 20 are patentable over the combination of Cutler and Whittaker for at least the reasons advanced with regard to independent claim 11 from which they depend, and further in view of their own respective features. Additionally, claims 26, 27, and 30 are also patentable over the combination of Cutler and Whittaker for at least the reasons advanced with regard to independent claim 21 from which they depend, and further in view of their own respective features. Reconsideration and withdrawal of these rejections is therefore respectfully requested.

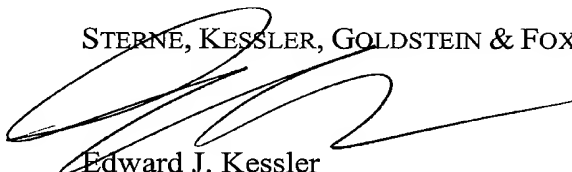
Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicant believes that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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